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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/936,510	09/24/1997	YONG BEOM KIM	8733.20056	9825
30827	7590	10/14/2004	EXAMINER	
MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON, DC 20006			CHOWDHURY, TARIFUR RASHID	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 10/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 08/936,510	<b>Applicant(s)</b> KIM, YONG BEOM	
	<b>Examiner</b> Tarifur R Chowdhury	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09/08/04.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,4,14,16,20,21 and 40-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,14,16,20,21 and 40-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/08/04 has been entered.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

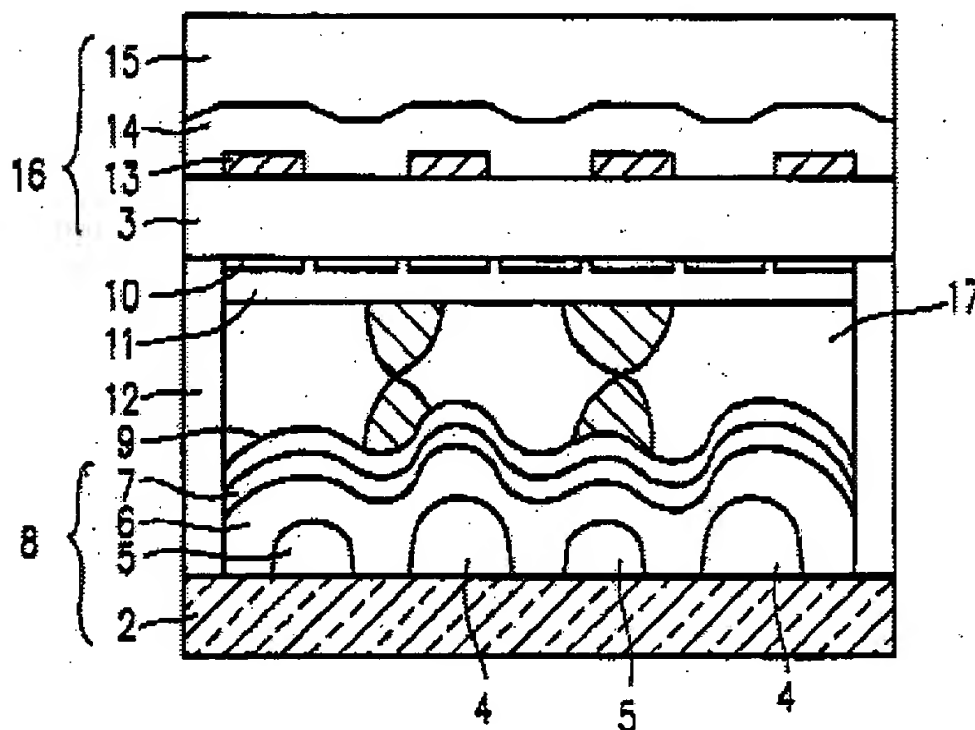
3. **Claims 1, 14, 40 and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Mitsui et al., (Mitsui), USPAT 5,559,617.**

4. Mitsui discloses and shows in Fig. 1, a reflection-type liquid crystal display device, comprising:

- first (2) and second (3) substrates;

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- a reflective electrode (7) over the first substrate (2), wherein the reflective electrode comprises metal such as aluminum, chromium etc. (applicant's opaque metal) (col. 5, lines 59-62);
- a liquid crystal layer (17) disposed interjacent the first and second substrates;
- two optical compensation films (13,14) (col. 6, lines 11-13) of a same type (col. 10, lines 58-63; col. 12, lines 14-23) over the second substrate (3); and
- a first alignment layer (9) over the first substrate (2) (col. 6, lines 28-29).

**FIG. 1**

Further, since Mitsui discloses that both optical compensation films are made of stretched polycarbonate film and since polycarbonate is inherently a uniaxially oriented polymer film unless disclosed otherwise the optical compensation members are inherently uniaxially stretched and the limitation such as both compensation films having same ordinary refractive index is inherent.

Accordingly, claims 1 and 40 are anticipated.

As to claims 14 and 42, since the method of manufacturing the device is merely a list of forming each component and each component must be formed to make the device, the method of manufacturing would be inherent to the device.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 4, 16, 41 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsui in view of Arakawa, USPAT 5,189,538.**

7. Mitsui differs from the claimed invention because he does not explicitly disclose that compensation films are positive-type.

Arakawa discloses a liquid crystal display having compensation films. Arakawa further discloses that by utilizing uniaxial compensation films of positive-type in a liquid crystal display, it is possible to widen the viewing angle (col. 3, lines 54-55; col. 4, lines 23-27).

Arakawa is evidence that ordinary workers in the art would find a reason, suggestion or motivation to use uniaxial compensation films of positive-type.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the display device of Mitsui by employing positive-type uniaxial optical compensation films so that viewing angle is widened, as per the teachings of Arakawa.

Accordingly, claims 4, 16, 41 and 43 would have been obvious.

**8. Claims 20, 21, 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsui as applied to claims 1, 14, 40 and 42 above and in view of Sugiyama et al., (Sugiyama), USPAT 5,757,455.**

9. Mitsui differs from the claimed invention because he does not explicitly disclose that the alignment layer having a plurality of alignment direction over the first substrate.

Sugiyama discloses a liquid crystal display device having good visual angle characteristics including a first alignment film with a plurality of first alignment direction, where at least two of the plurality of first alignment directions is either perpendicular or parallel to one another (Fig. 6G), formed on the first substrate (col. 1, lines 63-64; col. 2, lines 5-13). Sugiyama further discloses that the method of manufacturing such a device includes a method of forming the alignment layer by either rubbing or exposing number of times in accordance with the number of alignment directions to polarize ultraviolet rays to form the alignment directions (col. 4, lines 28-49; col. 5, lines 26-28).

Sugiyama is evidence that ordinary workers in the art would find a reason, suggestion or motivation to form alignment layer having plurality of alignment direction by either rubbing or exposing the alignment layer to ultraviolet light.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the display device of Mitsui by forming alignment layers having plurality of alignment direction by either rubbing or exposing the layer to ultraviolet light in order to obtain good visual angle characteristics.

Accordingly, claims 20, 21, 44 and 45 would have been obvious.

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**10. Claims 1, 4, 14, 16, 40, 41, 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baba et al., (Baba), USPAT 5,493,431.**

11. Baba discloses and shows in Fig. 1, a liquid crystal display device, comprising:

- first (7) and second (1) substrates;
- an electrode (6) over the first substrate;
- a liquid crystal layer (4) disposed interjacent the first and second substrates;
- two positive uniaxial optical compensation films (9, 10) of a same type over the second substrate (1), wherein an ordinary refractive index of each of the two uniaxial optical compensation films is the same (col. 5, lines 20-22, 50-55); and
- a first alignment layer (5) over the first substrate (7).

The only difference between Baba and the claimed invention is that the display device in the instant invention is reflective and using a reflective electrode that comprises an opaque material. However, using a reflective electrode to obtain a display device is common and known in the art and thus would have been obvious. Further, opaque materials such as aluminum, chromium are used to form a reflective electrode (see class 349, subclass 113).

Accordingly, claims 1, 4, 40 and 41 would have been obvious.

As to claims 14, 16, 42 and 43, since the method of manufacturing the device is merely a list of forming each component and each component must be formed to make the device, the method of manufacturing would have been obvious in view of the device.

**12. Claims 20, 21, 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baba in view of Sugiyama et al., (Sugiyama), USPAT 5,757,455.**

13. Baba differs from the claimed invention because he does not explicitly disclose that the alignment layer having a plurality of alignment direction over the first substrate.

Sugiyama discloses a liquid crystal display device having good visual angle characteristics including a first alignment film with a plurality of first alignment direction, where at least two of the plurality of first alignment directions is either perpendicular or parallel to one another (Fig. 6G), formed on the first substrate (col. 1, lines 63-64; col. 2, lines 5-13). Sugiyama further discloses that the method of manufacturing such a device includes a method of forming the alignment layer by either rubbing or exposing number of times in accordance with the number of alignment directions to polarize ultraviolet rays to form the alignment directions (col. 4, lines 28-49; col. 5, lines 26-28).

Sugiyama is evidence that ordinary workers in the art would find a reason, suggestion or motivation to form alignment layer having plurality of alignment direction by either rubbing or exposing the alignment layer to ultraviolet light.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the display device of Baba by forming alignment layers having plurality of alignment direction by either rubbing or exposing the layer to ultraviolet light in order to obtain good visual angle characteristics.

Accordingly, claims 20, 21, 44 and 45 would have been obvious.



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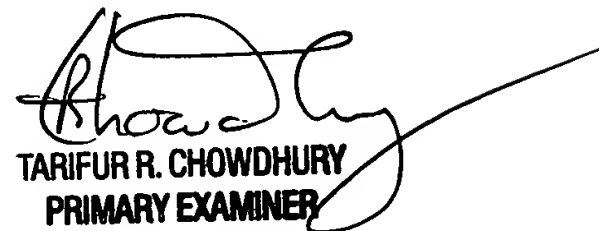
***Conclusion***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R Chowdhury whose telephone number is (571) 272-2287. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRC  
October 12, 2004

  
TARIFUR R. CHOWDHURY  
PRIMARY EXAMINER